

REBOTNIX

INDUSTRIAL SOLUTIONS



The REBOTNIX® GUSTAV AGX™

V1 User Guide | Last Modification 23.03.2022

This system provides a full-featured platform designed to get you up and running quickly. The included carrier board exposes many standard hardware interfaces, enabling a highly flexible and extensible platform.

We support out of the box:

1. Sample Linux filesystem with NVIDIA drivers
2. AI and Computer Vision libraries and APIs Developer tools
3. Supporting documentation
4. All boxes are preflashed with the latest Jetpack or installed with the Jetpack of your choice. You can use the remote flash software update SDK from Nvidia to upgrade this device.
5. Official Jetpack Support
6. Quickflash Options
7. We support all NVIDIA JetPack SDK and host development platforms.

A Linux host computer is required to run JetPack installer and flash the system.

Minimum system requirements for the host computer

Ubuntu Linux x64 v16.04 or v18.04, a valid Internet connection

See How to Install JetPack, below, for details about these steps: Download JetPack installer to your Linux host computer. Connect your developer kit to the Linux host computer. Put your developer kit into Force Recovery Mode. Run JetPack installer to select and install desired components.

1. Included in the box

REBOTNIX is a licensed and certified NVIDIA preferred partner and we produce several carrier boards including reference design that we sell worldwide.

2. GUSTAV with Jetson AGX Xavier module with thermal solution
Reference carrier board 65W power supply with AC cord.

You can detect the 2 version of the numbers of Ethernetports that were installed. Version 1 has one, version 2 has 2 ethernet ports with optional industrial POE (power over ethernet). Depend on the case you have different output or inputs that you can reach inside or outside. If you want to extend the features, it's possible to crossgrade any GUSTAV Version from 1 to a upper version at a upgrade fee.



Interface Details

- 2 x USB 3.0
- 1 x HDMI 2.0
- 2 x RJ-45 Ports
- 1 x DC 12 volt Input
- 1 x Quickflash port

Both connectors support DisplayPort, so you can run three displays at once by using these plus the HDMI adapter.

JETPACK NVIDIA JetPack SDK is the most comprehensive solution for building AI applications. It includes the latest developer kit, OS image, libraries and APIs, developer tools, samples, and documentation. Before using your developer kit, you will need to install JetPack. All REBOTNIX System uses the original driver for updating or re-flashing the system.

Jetpack or new Installation

You can use the SDK Mananger apt-get install to install the latest jetpack.

Link: <https://docs.nvidia.com/jetson/jetpack/index.html>

Jetpack reflash hardware and software:

Gustav AGX comes with an quickflash mode. This means, that you do not have to push any recovery or reset buttons.

IMPORTANT:

If you use a custom bootloader with encryption secure boot from REBOTNIX, you are asked for the license certificate file to re-flash the system. If you can start the NVIDIA SDK Manager and you will not see a password / file certificate response, then you do not use a custom encrypted secure bootloader. Please note that a custom bootloader requires hardware encryption that is installed on the board. The certificate is bundled with the hardware device serial.

REBOTNIX Secure boots protects to reflash the bootloader without that you set the board in a hardware recovery mode. This protects the system for external attacks. For bootloading refresh or a complete new installation or service, please open the front-panel, add a USB-C cable and start the NVIDIA SDKMANAGER from your host computer. Disconnect the power cable from the system.

Before you power the system:

The system must be in Force USB Recovery Mode (RCM) so the installer can transfer system software to the Jetson AGX Xavier module.

1. Power off the system.
2. Connect the quickflash Lemo cable to the serv port
3. Turn the device on
4. Check your host system if there is an NVIDIA entry

Flash

Check if the device is in recovery mode, open a terminal window and enter:

```
lsusb
```

You see the NVIDIA Corp. in the terminal output.

Datasheet of the hardware external and internal connectors.

PRODUCT	GUSTAV XAVIER
External connections	2 x Gigabit RJ-45 Ethernet, 3 x USB-3 1 x HDMI 2.0 4kp60 output
Internal	1 x M2. SSD Slot 1 x Quickflash with Microcontroller
DL Accelerator	2x NVDLA engines
Cooling system	Active with fan
Power supply	12V (Lemo)
Power consumption	10W -30 W
Dimensions	157 x 67 x 147 mm (W x H x D)
Weight	1500g
Life Time	01.01.2026

WORKING WITH UBUNTU OS, NVIDIA L4T provides the Linux kernel, bootloader, board support package (BSP), and sample filesystem for the Jetson AGX.

REBOTNIX Supports flashing and image backup solutions when you licensed this option.

JetPack installer installs the L4T sample file system on the GUSTAV as a reference kit to get you up and running quickly.

L4T is also available for download directly from the main L4T page on the Jetson Developer Site.

A command line flashing (flash.sh) utility is included in the L4T driver package, and the L4T documentation describes how to flash your device (please see flash section in this document).

The L4T documentation also includes documents such as the Platform Adaptation and Bring-Up Guide, which describes how to port the L4T BSP and bootloader to a new hardware platform incorporating the Jetson module.

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